

Non-Routine Public Forecast Products

A Quick Look at Human Behavior...

Studies over the past few years show that upon hearing a weather warning, it is human nature to immediately seek out a "second opinion" to assess the impact of the warning. This tendency is called *enhanced risk perception*. People who hear a warning on one radio or television station will usually turn to another station or a neighbor to determine if the same message has been broadcast elsewhere. Therefore, more people will take action to protect themselves when they actually hear the weather warning broadcast from the media, whether it be radio or television. The National Weather Service asks that when a **WARNING, WATCH, or ADVISORY** is issued, the message is relayed as quickly and accurately as possible to the public.

Outlooks, Watches, Warnings and Advisories

Is there really a difference? In fact, yes. The National Weather Service has specific definitions for the terms "warning," "advisory," and "outlook." These terms are the basis for products issued to the public.

OUTLOOK An outlook is issued to indicate that a hazardous weather or hydrologic event may develop. It is intended to provide information to those who need considerable lead time to prepare for the event.

WATCH A watch is issued when the risk of a hazardous weather or hydrologic event has increased significantly, but its occurrence, location, and/or timing are still uncertain. It is intended to provide enough lead time so those who need to set their plans in motion can do so. **Watches evolve into warnings or advisories, or they are cancelled.**

WARNING A warning is issued when the risk of a hazardous weather or hydrologic event is occurring, is imminent, or has a very high probability of occurrence. A warning is issued when conditions pose a threat to life and/or property. **Warnings can either be extended in time or coverage, or can be cancelled.**

NOTE: By Federal law, The National Weather Service is the single official voice that issues warnings for life-threatening weather.

ADVISORY An advisory is for less serious conditions that cause significant inconvenience and, if caution is not exercised, could lead to situations that may threaten life and/or property.

Outlooks, Watches, Warnings and Advisories

Outlooks, Watches, Warnings and Advisories continued...

Outlooks, watches, warnings, and advisories are non-routine products issued by the National Weather Service. They are issued to alert the public of meteorological events that could pose a threat to life and/or property. The events that drive these products fall into four categories:

1. Severe Weather Events
2. Winter Weather Events
3. Non-Precipitation Weather Events
4. General Public Information

Severe Weather Events

It is estimated that at any given moment, nearly 2,000 thunderstorms are active on the earth. All thunderstorms have the potential for the violence that makes them one of nature's greatest destroyers and killers.

Thunderstorms begin when relatively warm, humid air is forced upward. The forcing can occur from three basic processes:

- **Frontal** Cold dry air undercuts warm moist air, forcing the warm moist air aloft.
- **Orographic** Moist air is forced over higher terrain, such as the Coast Range or the Cascades.
- **Thermal** Rapid surface heating by the sun creates areas of rising air.

As the air rises, it expands and cools, and the water vapor it contains begins to condense into cloud droplets. Continued upward movement produces a cumulonimbus cloud, which is a thunderstorm cloud. Once an individual thunderstorm reaches maturity, precipitation and cool air cut off the supply of moisture to the thunderstorm in a process of decay.

Most thunderstorms consist of several cells, or updrafts, each lasting about 20 minutes. As downdrafts begin, a cell decays. New cells can form on the edges of downdrafts, replacing older decaying cells, and giving thunderstorms the potential to persist for several hours. Strong wind gusts of relatively cool air occur beneath and ahead of many mature thunderstorms. Other significant thunderstorm hazards are lightning, hail and strong winds that can cause considerable damage. Severe thunderstorms can bring frequent lightning, heavy rains that can cause flash flooding, large hail up to softball size, and funnel clouds or tornadoes.

Severe Weather Events

Lightning strikes the earth about 100 times every second. Lightning kills more than 100 people and injures over 300 people every year in the United States. Annual property losses—fire and other damage to structures, aircraft damage, livestock deaths and injuries, forest fires, and other effects—are estimated to cost hundreds of millions of dollars.

Lightning is a huge electrical arc resulting from the generation and separation of electrical charges in a thunderstorm. As water droplets rise with the ascending air within the thunderstorm, they freeze and shatter. The updraft carries the positive charges to the top of the cloud while the negative charges return to the lower part of the cloud. This process continues until the charges build up enough to attract each other. The accumulations of an electrical charge in the lower portion of the cloud can induce the opposite charge on the earth's surface.

The positive and negative charges begin moving toward each other, through invisible channels known as step leaders. The channels are often between the shortest distances possible, such as the cloud base and a tree or hilltop. When the two opposites come into contact with each other, a spark occurs. Instantaneously, the charges will race up and down the newly created channel. This racing of charges is the visible bolt of lightning. The flash of lightning continues until most of the built-up charges are equalized throughout the cloud and ground near the thundercloud.

Thunder is the sound produced by the explosive expansion of air heated by the lightning stroke. When lightning is near, thunder sounds like a sharp crack. The more distant, the thunder sounds more like low rumbling and growling, a result of sound being refracted and modified by the turbulent environment of the thunderstorm. Because the speed of light is about a million times faster than the speed of sound, the lightning bolt is visible before the thunder is heard. An easy rule for estimating the distance of the storm (in miles) is to count the number of seconds between the lightning flash and the arrival of thunder, and then divide by five.

When weather conditions in an area are expected to become severe, the NWS Storm Prediction Center in Norman, Oklahoma issues a severe thunderstorm or tornado watch. These watches define the area in which weather conditions **are favorable, but not guaranteed** for the development of severe weather.

A **SEVERE THUNDERSTORM WATCH** means conditions are favorable for the development of severe thunderstorms. A severe thunderstorm is defined as a thunderstorm that produces hail of 3/4 inch or larger in diameter and wind gusts of at least 58 mph (50 knots). Even though severe thunderstorms produce tornadoes, the threat of tornadoes under a severe thunderstorm watch is not great.

A **TORNADO WATCH** means conditions are favorable for the development of severe thunderstorms that produce tornadoes. When severe weather is occurring or imminent, a warning is issued by the local NWS office with the warning responsibility for the affected area. The warning includes the type of event, the areas to be affected, and the duration of the warning. It contains limited information and is designed for rapid dissemination to the public. Shortly after the warning is disseminated, a severe weather statement is issued, providing any changes with the warning and additional information.

Severe Weather Events

Following are the different types of severe weather products issued by the National Weather Service with their three-letter NWS identifier (WMO identifier in parentheses):

Severe Thunderstorm Warning	SVR	(WWUS56)
Severe Weather Statement	SVS	(WWUS56)
Tornado Warning*	TOR	(WWUS56)
Watch Notification Statement	WCN	(WWUS66)

*Funnel cloud reports can prompt an SPS, SMW, or TOR depending on severity of the situation.

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WWUS56 KPQR 302256
SVRPQR
ORC047-302330-
/O.NEW.KPQR.SV.W.0009.050930T2242Z-050930T2330Z/

BULLETIN - IMMEDIATE BROADCAST REQUESTED
SEVERE THUNDERSTORM WARNING
NATIONAL WEATHER SERVICE PORTLAND OR
342 PM PDT MON SEP 30 2005

THE NATIONAL WEATHER SERVICE IN PORTLAND HAS ISSUED A

* SEVERE THUNDERSTORM WARNING FOR...
CENTRAL MARION COUNTY IN NORTHWEST OREGON

* UNTIL 430 PM PDT

* AT 342 PM PDT...NATIONAL WEATHER SERVICE DOPPLER RADAR INDICATED
A SEVERE THUNDERSTORM JUST SOUTH OF SILVERTON...OR ABOUT 11 MILES
EAST OF SALEM...MOVING SOUTHEAST AT 25 MPH.

* THE SEVERE THUNDERSTORM WILL BE NEAR...
SILVER FALLS AT 355 PM PDT

LARGE HAIL...DAMAGING WINDS...AND HEAVY RAINFALL ARE LIKELY WITH THIS
STORM. TAKE COVER IN A STURDY BUILDING UNTIL THE STORM HAS PASSED.

LAT...LON 4506 12277 4491 12292 4480 12264 4487 12249

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Severe Thunderstorm Warning (SVR, WWUS56)

A Severe Thunderstorm Warning is issued to warn the public of an existing severe thunderstorm or one that is imminent. It contains:

- Warning expiration time
- County(s) affected
- Location, direction, and speed of movement of the thunderstorm.

A Severe Thunderstorm Warning is issued by the National Weather Service Office with warning responsibility for the affected counties.

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WWUS56 KPQR 211659
SVSPQR

SEVERE WEATHER STATEMENT
NATIONAL WEATHER SERVICE PORTLAND OR
952 AM PDT SAT JUN 21 2005

ORC003-043-047-053-211745-
/O.CAN.KPQR.SV.W.0014.050621T1752Z-050621T1810Z/

...SEVERE THUNDERSTORM WARNING FOR CENTRAL POLK COUNTY HAS BEEN
CANCELLED...

NATIONAL WEATHER SERVICE DOPPLER RADAR INDICATES THE THUNDERSTORM
THAT PROMPTED THE WARNING AND PRODUCED LARGE HAIL EARLER THIS MORNING
HAS WEAKENED BELOW SEVERE LEVELS AND MOVED OUT OF THE AREA.  THUS..THE
SEVERE THUNDERSTORM WARNING WAS CANCELLED  SHOWERS AND THUNDERSTORMS
WILL CONTINUE TO DEVELOP ACROSS NORTHWEST OREGON AND SOUTHWEST
WASHINGTON THIS AFTERNOON.

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Severe Weather Statement (SVS, WWUS56)

A Severe Weather Statement provides follow-up information on severe thunderstorm or tornado warnings, to include information on observed severe weather reports.

Severe Weather Events

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WFUS56 KPQR 271837
TORPQR
ORC005-272040-
/O.NEW.KPQR.TO.W.0001.051027T1810Z-051027T19000Z/

BULLETIN - IMMEDIATE BROADCAST REQUESTED
TORNADO WARNING
NATIONAL WEATHER SERVICE PORTLAND OR
1010 AM PST SUN OCT 27 2005

THE NATIONAL WEATHER SERVICE IN PORTLAND HAS ISSUED A

* TORNADO WARNING FOR...
  CLACKAMAS COUNTY IN OREGON

* UNTIL 1100 AM PST

* AT 1010 AM PST...NATIONAL WEATHER SERVICE DOPPLER RADAR INDICATED A
  THUNDERSTORM WITH A TORNADO 5 MILES SOUTH OF MARQUAM...MOVING NORTH
  AT 15 MPH.

* THE TORNADO IS EXPECTED TO BE NEAR...CANBY AT 1115 AM PST

LAT...LON 4394 12225 4388 12202 4446 12184 4448 12218

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Tornado Warning (TOR, WFUS56)

A Tornado Warning is issued to warn the public of an existing tornado or when a tornado is imminent. Like a Severe Thunderstorm Warning, the Tornado Warning contains:

- Warning expiration time,
- County(s) affected,
- Location, speed and direction of the tornado's movement.

The local NWS office with warning responsibility for the affected county or counties issues the tornado warning.

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WWUS62 KPQR 051939
WCNPQR

WATCH COUNTY NOTIFICATION FOR WATCH 711
NATIONAL WEATHER SERVICE PORTLAND OR
1238 PM EDT THU AUG 5 2004

ORC039-043-047-053-003-060000-
/O.NEW.KPQR.SV.A.0711.040805T1935Z-040806T0300Z/

THE NATIONAL WEATHER SERVICE HAS ISSUED SEVERE THUNDERSTORM WATCH 711
UNTIL 800 PM EDT THURSDAY EVENING FOR THE FOLLOWING AREAS:

IN NORTHWEST OREGON THIS WATCH INCLUDES 5 COUNTIES

LANE                LINN                MARION
POLK                BENTON

INCLUDING THE CITIES OF EUGENE..COTTAGE GROVE..OAKRIDGE..SWEET
HOME..LEBANNON..DETROIT..MILL CITY..SALEM..SILVERTON..CORVALLIS..DALLAS..AND
INDEPENDENCE.

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Watch Notification Statement (WCN, WWUS66)

The Watch County Notification Message (WCN) is issued to provide emergency managers, the media and the general public with a list of counties, cities and/or marine zones in a convective watch area. Convective watches include severe thunderstorm watches and tornado watches.

Winter Weather Events

Winter storms are generated by disturbances moving along boundaries of cold polar air and warm tropical air. The boundary, or front, is the interface between differing air masses, marking sharp differences between temperatures, density, wind, and atmospheric moisture.

In the Pacific Ocean, these disturbances form along the polar fronts of the east coast of Asia and travel east toward North America. Some of the disturbances may move over Alaska while others will extend far enough south to draw in sub-tropical moisture (the "Pineapple Express"). If the storm is strong enough, it can pull cold air from the north behind it.

Winter storms are sometimes accompanied by winds strong enough to create blizzard conditions with blinding, wind-driven snow. If winds are sufficiently strong, they can easily topple trees and power lines and cause extensive beach erosion. At sea, ships can be threatened by high waves created by the high winds. Extreme cold can arrive with storms or be left in their wake. Heavy snow, rain, and ice can cripple cities and counties, especially if the cities and/or counties are unprepared.

Winter storms are deceptive killers because most deaths are indirectly related to the storm. Everyone is potentially at risk during winter storms. Ice and cold related injuries occur every winter. The magnitude of the threat depends on your specific situation. Most deaths occur in automobiles during ice and snowstorms, mainly from hypothermia due to exposure to the cold or auto accidents. More people die from heart attacks while shoveling snow. The elderly and children are most at risk during the cold.

Unlike severe weather events, winter storms affect broad regions. Therefore, winter weather warnings and advisories are issued for entire forecast zones, rather than for individual counties.

All non-routine winter weather products, whether, the first issuance or final statement, are sent with the winter weather identifier: WSW (WWUS46). Event criteria and type are listed below.

ADVISORY EVENTS

Blowing Snow
Freezing Rain or Drizzle/Sleet
Snow
Winter Weather

WARNING EVENTS

Blizzard
Winter Storm
Heavy Snow
Wind Chill
Ice Storm
Sleet

Winter Weather Events

LOCATION (ZONE)	SNOW ADVISORY CRITERIA	HEAVY SNOW WARNING CRITERIA
Cascades	6" to 11" in 12 hours	12" or more in 12 hours 18" or more in 24 hours
Coast Range	3" to 5" in 12 hours	6" or more in 12 hours 10" or more in 24 hours
Western Valleys, Coast, Columbia Gorge	1" to 3" in 12 hours	4" or more in 12 hours 6" or more in 24 hours

By nature, there is a combination of different winter weather types with any winter storm. They can be combined into one warning to reflect the storm structure and its impact on the state. These criteria are general guidelines forecasters use to decide whether or not to issue a warning. They are not intended to address every situation.

The next several pages will show examples of the many different types and combinations of winter weather products issued by the NWS. Again, **all** are issued under the WSW (WWUS46) identifier.

Winter Weather Events

WWUS46 KPQR
WSWPQR

URGENT - WINTER WEATHER MESSAGE
NATIONAL WEATHER SERVICE PORTLAND OR
455 AM PST SUN JAN 4 2004

ORZ006-009-WAZ023-039-050100-
/O.NEW.KPQR.WS.A.0012.0500104T1255Z-050105T0600Z/
GREATER PORTLAND METRO AREA-GREATER VANCOUVER AREA-
WESTERN COLUMBIA RIVER GORGE-
INCLUDING THE CITIES OF...BATTLE GROUND...CASCADE LOCKS...
DOWNTOWN PORTLAND...DOWNTOWN VANCOUVER...HILLSBORO...HOOD
RIVER...OREGON CITY AND STEVENSON
455 AM PST SUN JAN 4 2004

...A WINTER STORM WATCH IS IN EFFECT FOR MONDAY FOR THE GREATER
PORTLAND METRO AREA...THE GREATER VANCOUVER AREA AND THE WESTERN
COLUMBIA RIVER GORGE...

CONSIDERABLE FALLING...BLOWING AND DRIFTING SNOW IS LIKELY IN THE
COLUMBIA RIVER GORGE AND IN THE EASTERN PORTIONS OF THE PORTLAND AND
VANCOUVER METRO AREA MONDAY AFTERNOON AND NIGHT.

TOTAL SNOWFALL ACCUMULATIONS OF 6 TO 10 INCHES COULD OCCUR IN THE
NORTHERN WILLAMETTE VALLEY...WHILE 10 TO 15 INCHES MAY FALL IN THE
COLUMBIA RIVER GORGE. SNOW WILL LIKELY TURN TO FREEZING RAIN LATE
TUESDAY WITH SIGNIFICANT ICE ACCUMULATIONS.

REMEMBER...A WINTER STORM WATCH MEANS HAZARDOUS WINTER WEATHER
CONDITIONS SUCH AS HEAVY SNOW...BLOWING AND DRIFTING
SNOW...SLEET...FREEZING RAIN AND EXTREME WIND CHILLS ARE FAVORABLE IN
AND CLOSE TO THE WATCH AREA IN THE NEXT 12 TO 48 HOURS.

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ORZ011-013-WAZ019-050100-
/O.NEW.KPQR.WS.A.0012.0500104T1255Z-050105T0600Z/
CASCADES IN LANE COUNTY-NORTHERN OREGON CASCADES-
SOUTH WASHINGTON CASCADES-
INCLUDING THE CITIES OF...COLDWATER RIDGE VISITORS CENTER...
DETROIT...GOVERNMENT CAMP...MCKENZIE BRIDGE...
MOUNT ST. HELENS AND OAKRIDGE
455 AM PST SUN JAN 4 2004

...A WINTER STORM WATCH IS IN EFFECT FOR MONDAY FOR THE CASCADES IN
LANE COUNTY...THE NORTHERN OREGON CASCADES AND THE SOUTH WASHINGTON
CASCADES...

TOTAL SNOWFALL ACCUMULATIONS IN THE CASCADES OF 1 TO 2 FEET ARE
POSSIBLE MONDAY AND TUESDAY.

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ORZ003-004-010-012-WAZ020-040-050100-
/O.NEW.KPQR.WS.A.0012.0500104T1255Z-050105T0600Z/
CASCADE FOOTHILLS IN LANE COUNTY-
CENTRAL COAST RANGE OF WESTERN OREGON-
COAST RANGE OF NORTHWEST OREGON-NORTHERN OREGON CASCADE FOOTHILLS-
SOUTH WASHINGTON CASCADE FOOTHILLS-WILLAPA HILLS-
INCLUDING THE CITIES OF...COUGAR...FRANCES...GRANDE
RONDE...JEWELL...LOWELL...MAPLETON...MILL CITY...SANDY...SWEET
HOME...TOUTLE...VERNONIA AND VIDA
455 AM PST SUN JAN 4 2004

...A WINTER STORM WATCH IS IN EFFECT FOR MONDAY FOR THE CASCADE
FOOTHILLS IN LANE COUNTY...THE CENTRAL COAST RANGE OF WESTERN
OREGON...THE COAST RANGE OF NORTHWEST OREGON...THE NORTHERNOREGON
CASCADE FOOTHILLS...THE SOUTH WASHINGTON CASCADE FOOTHILLS AND THE
WILLAPA HILLS...

TOTAL SNOWFALL ACCUMULATIONS IN THE COAST RANGE AND CASCADE FOOTHILLS
AND WILLAPA HILLS OF 10 TO 15 INCHES ARE POSSIBLE MONDAY AND TUESDAY.

Winter Storm Watch (WSW, WWUS46)

A Winter Storm Watch for the Portland metro area, the western Columbia River Gorge, and the Cascades is shown in the following example.

The watch would be upgraded to a Heavy Snow Warning when the storm is expected to produce heavy snowfall within the next 36 hours. The watch may also be upgraded to a Winter Storm Warning when the storm is expected to produce heavy snow during the next 36 hours and accompanied by strong winds, ice or sleet.

Winter Weather Events

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WWUS46 KPQR 021241
WSWPQR

URGENT - WINTER WEATHER MESSAGE
NATIONAL WEATHER SERVICE PORTLAND OR
130 PM PST TUE DEC 6 2005

ORZ0900-WAZ023-070330-
/O.NEW.KPQR.FZ.Y.0019.051206T2030Z-051207T1700Z/
WESTERN COLUMBIA RIVER GORGE-

...FREEZING RAIN ADVISORY IS IN EFFECT FROM 130 PM TODAY THROUGH 900
AM WED MORNING FOR THE WESTERN COLUMBIA RIVER GORGE...

PATCHY FREEZING RAIN WILL INCREASE TONIGHT AS EAST WINDS BRING MORE
COLD AIR TO THE COLUMBIA RIVER GORGE. MOTORISTS TRAVELING THROUGH
THE GORGE TONIGHT ARE URGED TO DRIVE WITH EXTREME CAUTION.

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Freezing Rain Advisory (WSW, WWUS46)

A Freezing Rain Advisory for zones 9 and 23 (Western Columbia River Gorge) is shown in this example. Freezing Rain Advisories are issued for light accumulations (generally less than ¼ inch) of ice over a local area.

This product may be upgraded to an ice storm warning if the freezing rain is expected to provide widespread accumulations of ice (typically ¼ inch or more ice accumulation).

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WWUS46 KPQR 021241
WSWPQR

URGENT - WINTER WEATHER MESSAGE
NATIONAL WEATHER SERVICE PORTLAND OR
440 AM PST WED APR 2 2005

WAZ020-021900-
/O.NEW.KPQR.SN.Y.0026.050402T1800Z-050403T1900Z/
WILLAPA HILLS-
INCLUDING THE CITIES OF...FRANCES
440 AM PST WED APR 2 2005

...A SNOW ADVISORY IS IN EFFECT FROM 1000 AM TODAY THROUGH 1100 AM
THU MORNING FOR THE WILLAPA HILLS OF SOUTHWEST WASHINGTON...

THIS SNOW ADVISORY REPLACES THE WINTER STORM WARNING THAT WAS
PREVIOUSLY IN EFFECT FOR THE WILLAPA HILLS.

SNOW SHOWERS OVER THE WILLAPA HILLS WILL INCREASE IN INTENSITY
TODAY...AND CONTINUE THROUGH TONIGHT. SNOW ACCUMULATIONS OF UP TO
3 INCHES CAN BE EXPECTED ABOVE 1500 FEET BY THE END OF THE DAY
TODAY...WITH TOTAL ACCUMULATIONS UP TO 6 INCHES BY THURSDAY MORNING.

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ORZ010>013-WAZ019-040-021900-
/O.NEW.KPQR.SN.Y.0026.050402T2000Z-050403T1900Z/
CASCADE FOOTHILLS IN LANE COUNTY-CASCADES IN LANE COUNTY-
NORTHERN OREGON CASCADE FOOTHILLS-NORTHERN OREGON CASCADES-
SOUTH WASHINGTON CASCADE FOOTHILLS-SOUTH WASHINGTON CASCADES-
INCLUDING THE CITIES OF...COLDWATER RIDGE VISITORS CENTER...COUGAR...
DETROIT...GOVERNMENT CAMP...LOWELL...MCKENZIE BRIDGE...MILL CITY...
MOUNT ST. HELENS...OAKRIDGE...SANDY...SWEET HOME...TOUTLE AND VIDA
440 AM PST WED APR 2 2005

...A SNOW ADVISORY IS IN EFFECT FROM 1200 PM TODAY THROUGH 1100 AM
THU MORNING FOR THE CASCADE AND CASCADE FOOTHILLS OF SOUTH WASHINGTON
AND NORTH AND CENTRAL OREGON...

A SNOW ADVISORY HAS BEEN ISSUED FOR THIS AFTERNOON AND TONIGHT FOR
THE CASCADE AND CASCADE FOOTHILLS OF SOUTH WASHINGTON AND NORTH AND
CENTRAL OREGON. SNOW SHOWERS OVER THE CASCADES AND CASCADE FOOTHILLS
WILL INCREASE THIS AFTERNOON...AND CONTINUE THROUGH TONIGHT. SNOW
ACCUMULATIONS OF 2 TO 4 INCHES CAN BE EXPECTED ABOVE 1500 FEET BY
THE END OF THE DAY TODAY. TOTAL ACCUMULATIONS OF 6 TO 10 INCHES CAN
BE EXPECTED BY THURSDAY MORNING...WITH THE HEAVIEST AMOUNTS IN THE
HIGHER ELEVATIONS OF THE OREGON CASCADES.

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Snow Advisory (WSW, WWUS46)

A Snow Advisory can be issued for different locations in Oregon and Washington.

A Snow Advisory would be upgraded to a Heavy Snow Warning if the snow becomes, or is expected to become, heavier.

Winter Weather Events

WWUS46 KPQR 021240
WSWPQR

URGENT - WINTER WEATHER MESSAGE
NATIONAL WEATHER SERVICE PORTLAND OR
440 AM PST WED APR 2 2003

ORZ003-004-021900-
/O.NEW.KPQR.WS.W.0017.050402T2000Z-050403T1300Z/
CENTRAL COAST RANGE OF WESTERN OREGON-
COAST RANGE OF NORTHWEST OREGON-
INCLUDING THE CITIES OF...GRANDE RONDE...JEWELL...
MAPLETON AND VERNONIA
440 AM PST WED APR 2 2003

...A WINTER STORM WARNING IS IN EFFECT FROM 1200 PM TODAY THROUGH 600
AM THU FOR THE COAST RANGE OF NORTH AND CENTRAL OREGON...

A WINTER STORM WARNING HAS BEEN ISSUED FOR TODAY AND TONIGHT FOR THE
COAST RANGE OF NORTH AND CENTRAL OREGON. SNOW SHOWERS OVER THE
COAST RANGE OF NORTH AND CENTRAL OREGON WILL INCREASE IN INTENSITY
TODAY...AND CONTINUE THROUGH TONIGHT. SNOW ACCUMULATIONS OF UP TO 6
INCHES CAN BE EXPECTED ABOVE 1500 FEET BY THE END OF THE DAY
TODAY...WITH TOTAL ACCUMULATIONS UP TO 12 INCHES BY THURSDAY MORNING.
ADDITIONALLY, WIND GUSTS OF 25 MPH CAN BE EXPECTED TODAY WHICH MAY
PRODUCE AREAS OF BLOWING SNOW.

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Winter Storm Warning (WSW, WWUS46)

A Winter Storm Warning for the central and northern Coast Range in western Oregon is shown in this example. A Winter Storm Warning is issued for a winter event having more than one predominant hazard (e.g., snow and wind, snow and ice, sleet and snow) meeting or exceeding warning criteria.

A Blizzard Warning would take this form as well. A Blizzard Warning is issued for winter storm conditions when snow combined with winds greater than 35 mph create blowing and drifting of snow, reducing visibilities to one-quarter mile or less and lasting for 3 hours or more.

Winter Weather Events

WWUS86 KPQR 211539
SABOR
ORZ011-042-221530-

FOREST SERVICE NORTHWEST WEATHER AND AVALANCHE CENTER
ISSUED THROUGH NATIONAL WEATHER SERVICE PORTLAND, OR

SPECIAL AVALANCHE STATEMENT FOR THE MT HOOD AREA

This statement applies to back country avalanche terrain below 7000 feet. It does not apply to highways or operating ski areas.

830 AM PDT WEDNESDAY 21 APRIL 2004

...RECENT SNOW SHOULD CAUSE SOME SPRING AVALANCHES AT MT HOOD ON WEDNESDAY AND THURSDAY...

About 1.5 feet of snow has fallen at Timberline and Mt Hood Meadows the past 2 days with cool temperatures. Some warming and increasing sun effects are expected on Wednesday afternoon. Further warming and sunny weather is expected on Thursday. This may cause some extra wet loose avalanches and potential wet slab avalanches Wednesday afternoon and Thursday. These avalanches should be most likely on steeper southeast slopes in the sun in the late morning shifting to steeper southwest and west slopes in the sun in the afternoon. But wet snow avalanches may be possible on other steep slopes at other times as well. It should be wise to avoid areas below cliffs, gullies, avalanche run out zones during the warm midday and afternoon hours. Remember that even small, slow moving wet snow avalanches can be powerful and dangerous if they carry a person over a cliff or rocks, into a crevasse, or into a terrain trap where deeper burial is possible.

Some more light rain or snow and slightly cooler temperatures are expected on Friday. Sunny weather and much warmer temperatures are expected over the weekend. Most avalanche activity from the recent snow should have taken place by the weekend. But spring snow conditions and possible wet snow avalanches such as those outlined above may persist through the weekend. Remember to continue to periodically evaluate snow conditions anytime you decide to travel near avalanche terrain. It is often easy to see how easily surface snow will slide on test slopes. Natural avalanches are also Mother Nature's way of offering direct information on snow stability.

Please have a safe and enjoyable spring!

Note that information on spring and summer snow conditions may be exchanged at the Friends of the Northwest Weather and Avalanche Center's (FOAC) web site at <http://www.avalanchenw.org/blog/>.

Backcountry travelers should be aware that elevation and geographic distinctions are approximate and a transition zone between dangers exists. Remember there are avalanche safe areas in the mountains during all levels of avalanche danger. Contact local authorities in your area of interest for further information.

NWAC Mountain Weather Forecasts and mountain weather data are also available by visiting our Web site at www.nwac.noaa.gov.

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Backcountry Avalanche Statement (SAB, WWUS86)

Northwest Avalanche Center

Heavy annual snowfall (ranging from 20 to over 80 feet, depending on elevation), large freezing level fluctuations (from near sea level to over 10,000 feet), and frequent strong winds combine to produce thousands of avalanches each winter. Such events necessitated the creation of the Northwest Avalanche Center co-located with the Seattle National Weather Service Forecast Office. This center is a joint venture of the National Weather Service, the USDA-Forest Service, the National Park Service, Washington Department of Transportation, and many other private and governmental agencies.

Public Avalanche forecasts are issued each morning, November through mid-April, with further updates when rapidly changing or extreme avalanche conditions develop. Two forecasts are issued. The first is for the south Washington Cascades (Mt. St. Helens area). The second forecast covers the north Oregon Cascades (Mt. Hood area).

The Backcountry Avalanche Statement gives a brief description of the current avalanche hazard for the following day. Following the forecast, a synopsis describes the snow stability and stability trends. Every Friday, the forecast includes an extended outlook for Sunday.

For specific snow pack and avalanche information in:

Mt. Hood Area and the south Washington Cascades, call **(503) 808-2400**
Washington Cascades and Olympic Mountains, call **(206) 526-6677**
website: www.nwac.noaa.gov

Non-Precipitation Weather Events

Non-precipitation events such as high wind, blowing dust, fog, and volcanic ash adversely impact our area, just as rain and snow affects our area.

Like winter weather events, non-precipitation weather events tend to cover large areas and will generally be issued for forecast zones. Also, as with winter weather events, non-precipitation weather watches can evolve into warnings or advisories, or may be cancelled.

A **Non-Precipitation Warning (NPW)** is used to:

- * Issue the initial outlook, warning, watch, or advisory,
- * Change the type of outlook, warning, watch, or advisory,
- * Add or delete affected areas of county or state,
- * Extend the cancellation time of the event,
- * Update information pertaining to the outlook, warning, watch, or advisory,
- * Terminate an outlook, warning, watch, or advisory.

The National Weather Service issues a handful of advisory and warning products for non-precipitation events:

ADVISORY EVENTS

Dense Fog
Blowing Dust
Heat
Smoke
Volcanic Ash

WARNING EVENTS

High Wind
Dust Storm
Excessive Heat
Frost/Freeze

All non-precipitation products are issued under the header NPW (WWUS76).

Non_Precipitation Weather Events

WWUS76 KPQR 041247
NPWPQR

URGENT - WEATHER MESSAGE
NATIONAL WEATHER SERVICE PORTLAND OR
447 AM PST TUE FEB 4 2005

ORZ001-005>008-WAZ021-022-039-042045-
/O.NEW.KPQR.FG.Y.0033.050204T1245Z-050204T2300Z/
CENTRAL WILLAMETTE VALLEY-GREATER PORTLAND METRO AREA- GREATER
VANCOUVER AREA-LOWER COLUMBIA-LOWER COLUMBIA AND I - 5 CORRIDOR IN
COWLITZ COUNTY-NORTH OREGON COAST- SOUTH WILLAMETTE VALLEY-SOUTH
WASHINGTON COAST- INCLUDING THE CITIES OF...
RAYMOND...LONGVIEW...DOWNTOWN VANCOUVER... CATHLAMET...BATTLE
GROUND...TILLAMOOK...ST. HELENS...SALEM... MCMINNVILLE...HILLSBORO...
EUGENE...DOWNTOWN PORTLAND...DALLAS...CORVALLIS...ASTORIA AND ALBANY
447 AM PST TUE FEB 4 2003

...A DENSE FOG ADVISORY IS IN EFFECT FROM 445 AM THIS MORNING TO 300
PM THIS AFTERNOON FOR THE CENTRAL WILLAMETTE VALLEY...THE GREATER
PORTLAND METRO AREA...THE GREATER VANCOUVER AREA...THE LOWER
COLUMBIA...THE LOWER COLUMBIA AND I - 5 CORRIDOR IN COWLITZ
COUNTY...THE NORTH OREGON COAST...THE SOUTH WILLAMETTE VALLEY AND THE
SOUTH WASHINGTON COAST...

CLEARING SKIES OVER A MOIST AIR MASS ARE PRODUCING AREAS OF DENSE FOG
THIS MORNING WITH VISIBILITIES 1/4 MILE OR LESS AT SOME LOCATIONS.
AREAS OF THICK FOG WILL MOVE IN AND OUT SHROUDING OTHER VEHICLES AND
PEDESTRIANS AT TIMES.

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Dense Fog Advisory (NPW, WWUS76)

A Dense Fog Advisory is issued when fog reduces visibilities to 1/4 mile or less over a large area. Dense fog information may also be issued under a short-term forecast (NOW).

WWUS76 KPQR 250727
NPWPQR

URGENT - WEATHER MESSAGE
NATIONAL WEATHER SERVICE PORTLAND OR
1227 AM PST THU MAR 25 2005

ORZ001-002-WAZ021-252000-
/O.NEW.KPQR.HW.W.0012.050325T1200Z-050325T2300Z/
CENTRAL OREGON COAST-NORTH OREGON COAST-SOUTH WASHINGTON COAST-
INCLUDING THE CITIES OF...ASTORIA...CATHLAMET...FLORENCE...
MANZANITA...NEWPORT...RAYMOND AND TILLAMOOK
1227 AM PST THU MAR 25 2005

...A HIGH WIND WARNING IS IN EFFECT FROM 4 AM EARLY THIS MORNING TO
12 PM PST THIS AFTERNOON FOR THE CENTRAL OREGON COAST...THE NORTH
OREGON COAST AND THE SOUTH WASHINGTON COAST...

A STRONG PACIFIC COLD FRONT IS APPROACHING THE OREGON AND SOUTH
WASHINGTON COAST AND WILL MOVE INLAND NEAR NOON TODAY. AHEAD OF THE
COLD FRONT STRONG SOUTH WINDS WILL DEVELOP...ESPECIALLY ALONG THE
COASTAL HEADLANDS AND NEAR THE SHORE. WINDS ARE EXPECTED TO INCREASE
TO 35 MPH ALONG THE COAST WITH GUSTS TO 60 MPH ALONG THE COASTAL
HEADLANDS AND AT COMMUNITIES NEAR THE SHORELINE WITH GUSTS 50 MPH
ELSEWHERE. THESE STRONG WINDS ARE EXPECTED TO CONTINUE UNTIL THE
FRONT MOVES INLAND AROUND NOON TODAY.

REMEMBER...A HIGH WIND WARNING MEANS HAZARDOUS WEATHER CONDITIONS OF
STRONG AND DAMAGING WINDS ARE HIGHLY LIKELY IN THE WARNING AREA.

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High Wind Warning (NPW, WWUS76)

A High Wind Warning is shown in this example. High wind warnings are issued according to the criteria listed below.

High Wind Warning Criteria:

Cascades & the Columbia River Gorge:	Sustained winds of 50 MPH (43 Knots) or more and/or gusts of 75 MPH (63 Knots) or greater.
Remainder of Oregon & Southwest Washington:	Sustained winds of 40 MPH (35 Knots) or more and/or gusts of 58 MPH (50 Knots) or greater.

General Public Information

The object of the following public weather products is to provide uniform and authoritative weather information to the mass media and the public.

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NOUS46 KPQR 181823
PNSPQR

PUBLIC INFORMATION STATEMENT
NATIONAL WEATHER SERVICE PORTLAND OR
1125 AM PDT SUN MAY 18 2005

...RECORD LOW TEMPERATURES POSSIBLE AGAIN MONDAY MORNING...

A COLD AIRMASS HAS BROUGHT RECORD LOW TEMPERATURES /SEE SXUS99/ AND
LOCALIZED FROST TO AREAS OF NW OREGON THIS MORNING. THE UNSEASONABLY
COLD AIR WILL PERSIST THROUGH MONDAY MORNING WITH THE THREAT FOR
MORE RECORD LOWS AND LOCALIZED FROST. THE FOLLOWING ARE RECORD LOWS
FOR MAY 19 THAT MAY BE THREATENED TOMORROW MORNING.

PORTLAND ... 41 IN 1982
ASTORIA ... 37 IN 1995
HILLSBORO ... 36 IN 1982
MCMINNVILLE ... 34 IN 1982

THE RECORD LOW FOR SALEM ON MAY 19TH IS 32 DEGREES FROM 1982. THE
RECORD LOW FOR EUGENE IS 33 DEGREES ALSO SET IN 1982. IT APPEARS
THAT THESE RECORDS WILL NOT BE BROKEN.

FOR THIS AND OTHER WEATHER INFORMATION...SEE OUR WEBPAGE AT:
HTTP://WWW.WRH.NOAA.GOV/PORTLAND/
(THIS URL IS ALL IN LOWER CASE).

END.

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Public Information Statement (PNS, NOUS46)

The Public Information Statement (PNS) is a non-routine report that highlights significant weather events. A PNS may highlight a warning that has been issued, or may detail the expiration or cancellation of a warning.

A PNS is also issued to summarize unusual weather such as extended hot spells, cold spells, or wet spells. The PNS is distributed widely to local media, emergency managers, and Internet customers.

Record Event Report

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RECORD EVENT REPORT
NATIONAL WEATHER SERVICE PORTLAND OREGON
0449 AM PDT WED JUL 30 2005

...RECORD HIGH TEMPERATURE SET AT PORTLAND...

A RECORD HIGH TEMPERATURE OF 100 DEGREES WAS SET AT PORTLAND
YESTERDAY. THIS BREAKS THE OLD RECORD OF 99 SET IN 1990.

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Record Event Report (RER, SXUS99)

The Record Event Report is a non-routine narrative product that reports meteorological and/or hydrological events that equal or exceed existing records. These reports are only issued for a limited number of cities.

General Public Information

SPECIAL WEATHER STATEMENT
NATIONAL WEATHER SERVICE PORTLAND OR
213 PM PST SUN DEC 25 2005

ORZ011-013-WAZ019-262000-
NORTHERN OREGON CASCADES-CASCADES IN LANE COUNTY-
SOUTH WASHINGTON CASCADES-
INCLUDING THE CITIES OF...GOVERNMENT CAMP...DETROIT...
SANTIAM PASS...MCKENZIE BRIDGE...OAKRIDGE...WILLAMETTE PASS...
COLDWATER RIDGE VISITORS CENTER...MOUNT ST. HELENS
213 PM PST SUN DEC 25 2005

...SNOW IN THE SOUTH WASHINGTON AND NORTH AND CENTRAL OREGON
CASCADES TONIGHT AND MONDAY...

AFTER SEVERAL DAYS OF SNOW LEVELS 8000 FEET OR HIGHER IN THE
CASCADES...SNOW LEVELS HAVE DROPPED TO BETWEEN 5500 AND 6000 FEET
ON CHRISTMAS. THIS HAS BROUGHT SOME LIGHT SNOW TO THE MID AND
UPPER ELEVATIONS OF THE SKI RESORTS...WHILE PRECIPITATION HAS
REMAINED RAIN IN THE CASCADE PASSES.

THE SNOW LEVEL IS FORECAST TO DROP DOWN TO NEAR PASS ELEVATIONS
THROUGH THE CASCADES LATE TONIGHT AND ON MONDAY. FROM 2 TO 5
INCHES OF SNOW IS EXPECTED TONIGHT...MAINLY ABOVE THE
PASSES...WITH AN ADDITIONAL 2 TO 5 INCHES ON MONDAY DOWN TO
BETWEEN 4000 AND 4500 FEET IN ELEVATION ON MONDAY.

MORE PRECIPITATION IS EXPECTED TUESDAY IN THE CASCADES...WITH THE
SNOW LEVEL GRADUALLY RISING AGAIN.

USE CAUTION IF YOU MUST TRAVEL IN THE CASCADES MONDAY...AND BE
SURE TO CARRY CHAINS OR TRACTION TIRES.

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Special Weather Statement (SPS, WWUS86)

A Special Weather Statement provides information about expected or ongoing significant weather events not covered in other statements. The Special Weather Statement can also be used for Winter Storm Outlooks, High Wind Outlooks, and reports of funnel clouds.

FPUS76 KPQR 161849
NOWPQR

SHORT TERM FORECAST
NATIONAL WEATHER SERVICE PORTLAND OR
1147 AM PDT FRI MAY 16 2004

ORZ009-WAZ023-039-161941-
GREATER VANCOUVER AREA-WESTERN COLUMBIA RIVER GORGE-
INCLUDING THE CITIES OF...STEVENSON...DOWNTOWN VANCOUVER...
BATTLE GROUND...HOOD RIVER AND CASCADE LOCKS
1142 AM PDT FRI MAY 16 2004

.NOW...

AN AREA OF SHOWERS AND EMBEDDED THUNDERSTORMS WILL MOVE ACROSS
PORTIONS OF EASTERN CLARK...SKAMANIA AND HOOD RIVER COUNTIES THROUGH
1245 PM PDT. MOTORISTS ALONG THE INTERSTATE 84 CORRIDOR BETWEEN
TROUTDALE AND HOOD RIVER CAN EXPECT BRIEF HEAVY RAIN AND SMALL
HAIL. ADDITIONALLY...OUTDOOR RECREATIONAL ENTHUSIASTS IN THE
COLUMBIA RIVER GORGE AND ADJACENT NATIONAL FORESTS CAN EXPECT
DANGEROUS LIGHTNING AND SMALL HAIL.

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Short Term Forecast or the Nowcast (NOW, FPUS76)

The Short Term Forecast (NOW) is used to describe hydro-meteorological conditions over the next 1 to 3 hours. Emphasis is placed on location, timing, and intensity of significant weather features that are localized and cannot be adequately covered in the zone forecasts. Short Term Forecasts are issued for the same areas as the zone forecasts

General Public Information

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NWUS56 KPQR 190441
LSRPQR

PRELIMINARY LOCAL STORM REPORT
NATIONAL WEATHER SERVICE PORTLAND OR
940 PM PDT FRI JUN 18 2004

..TIME...   ..EVENT...   ...CITY LOCATION...   ...LAT.LON...
..DATE...   ...MAG...    ...COUNTY LOCATION...ST... ..SOURCE...
..REMARKS..

0845 PM     TORNADO      SHERWOOD              45.36N 122.84W
06/18/2004                WASHINGTON            OR    PUBLIC

      A REPORT WAS RECEIVED FROM THE PUBLIC THAT A SMALL
      TORNADO BRIEFLY TOUCHED DOWN AT AROUND 845 PM NEAR THE
      SHERWOOD YMCA AND DAMAGED 7 TREES.

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Local Storm Reports (LSR, NWUS56)

Local Storm Reports are used to relay information concerning a severe weather occurrence. The reports will include a source for the report, the type of weather observed, the time and place of occurrence, and any damages or deaths involved.

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SEUS66 KPQR 241953
EQRQR

EARTHQUAKE REPORT
NATIONAL WEATHER SERVICE PORTLAND OR
1250 PM PDT THU APR 24 2003

AN EARTHQUAKE WAS FELT WEAKLY BY A FEW IN AMBOY AND VANCOUVER
WASHINGTON AND BEAVERTON OREGON AROUND 1225 PDT. NO DAMAGE REPORTED.
PICTURES RATTLED ON WALLS IN AMBOY. NO PRELIMINARY MAGNITUDE IS
AVAILABLE AT THIS TIME.

INFORMATION RELEASED IN THIS STATEMENT IS PRELIMINARY.
UPDATES...WILL BE MADE AS MORE INFORMATION BECOMES AVAILABLE FROM
THE NATIONAL EARTHQUAKE INFORMATION CENTER IN GOLDEN COLORADO.

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Earthquake Information Report (EQR, SEUS66)

Whenever an earthquake of intensity IV or greater on the modified Mercalli Scale is reported to personnel at NWS offices, an Earthquake Information Report is issued by the affected office. It provides a brief description of the event including any reported damage.

Additional earthquake information reports are issued as information becomes available. Generally, two to three hours following the earthquake, the U. S. Geological Survey National Earthquake Information Center (NEIC) issues a statement describing the magnitude and location of the seismic event. The NEIC phone number is (303) 273-8500. Their website is: <http://neic.usgs.gov>.